

## HEALTH & FITNESS:

# CAFFEINE

**Cpt. Reva Rogers, RD**  
101st Airborne Division Dietician

Today's Soldiers must operate intricate computer-controlled systems, quickly identify threats in a complex environment, and be ready to react on a moments notice.

As the number of requirements placed upon us increases, typically the amount of sleep we get decreases. Although sleep is the most effective way to ensure we continue functioning at a high level, in reality, getting eight hours of sleep a night is often a luxury only dreamt about.

People's need for sleep varies greatly -- some Soldiers function fine on as little as 5 ½ hours of sleep, while others may require as many as 9 ½ hours for optimal performance.

If you continually operate on 7 or less hours of sleep a night, your performance -- both physical and mental -- may suffer.

Sleep is the best way to restore a decrease in mental and physical performance caused by sleep deprivation. Several studies have found napping for as little as 15

minutes can result in a marked improvement in mental functioning. However, if you are unable to get enough sleep at night or take naps, caffeine may help improve both your physical and mental performance.

Before deciding to consume caffeine as a performance enhancer you should first consider the potential side effects and warnings.

### Caffeine warnings and effects:

- You should not use caffeine if you have high blood pressure or if you have a family history of high blood pressure.

- Caffeine increases your urine output, therefore increasing your risk for becoming dehydrated.

- Caffeine can, at least temporarily, increase calcium excretion. This becomes a problem if your calcium intake is low.

### How much should you take?

If sleep deprived, doses of 100-600 mg may improve cognitive function. The Committee on Military Nutrition Research recommended in its book, *Caffeine for the Sustainment of Mental Task Performance: Formulations for Military Operations* (2001), limiting

caffeine consumption to no more than 600 mg. Doses of caffeine over 600 mg can degrade your cognitive function, negatively effect mood, and can make sleeping difficult when you finally get to rest.

### How should I take it?

Caffeine can be consumed in a variety of ways. The committee recommends using a caffeine-containing food bar or chewing gum as the mechanism. This enables you to more accurately determine exactly how much caffeine you are consuming.

### Quitting caffeine

Most of us have heard of, or experienced the headaches, drowsiness, and irritability associated with caffeine withdrawal. Obviously these symptoms can negatively impact your ability to function at a high level and should be avoided during critical operations.

It is best not to go "cold turkey" when stopping caffeine intake if you want to avoid caffeine withdrawal. Slowly reducing the amount you consume or consuming low doses (25 - 50 mg) of caffeine should prevent the occurrence of withdrawal symptoms. ■

## Dosing for caffeine gum

- Mental performance when adequately rested: Start with 1 piece and use as needed.
- Mental performance when sleep deprived: start with 1 stick and use as needed not to exceed 2 sticks per hour for up to 6 hours.
- Physical performance: chew 2 sticks for 5 minutes followed by 2 more sticks at the start of activity. Re-dose every 6 hours.
- Combined physical and mental performance: follow guideline for physical performance re-dosing with 1 stick as needed.

*From: Canadian Military Journal, Winter 2003-2004*

## Caffeine content:

Source	mg
Coffee brewed drip method (6 oz)	100
Tea, 6 oz, steeped for 3 min	36
Cola, 12 oz	35-50
Mountain Dew, 12 oz	54
Hot Cocoa, 6 oz	4
Caffeine gum	100

*From: Krause's Food Nutrition and Diet Therapy*